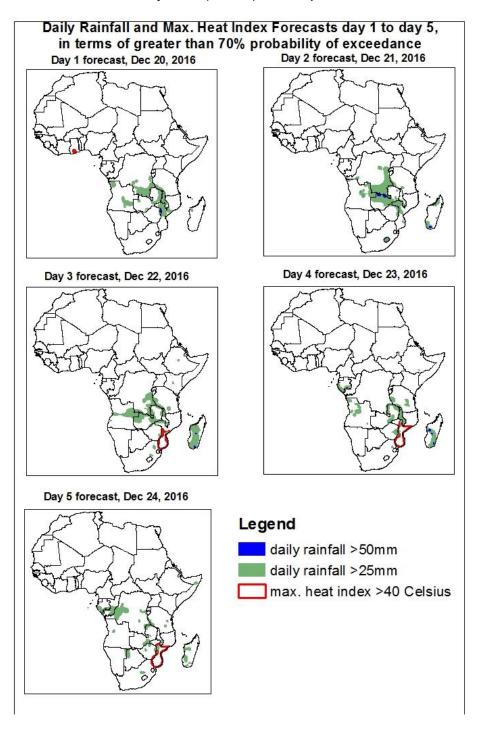
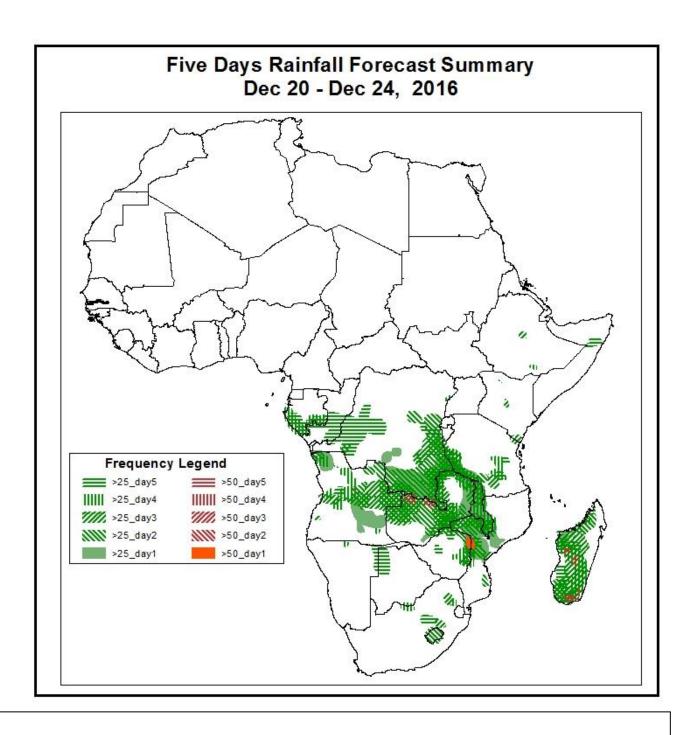
# 1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on Dec 19, 2016)

# 1.1. Daily Rainfall and Maximum Heat Index Forecasts (valid: Dec 20 – Dec 24, 2016)

The forecasts are expressed in terms of high probability of precipitation (POP) and high probability of maximum heat index, based on the NCEP/GFS, ECMWF and the NCEP Global Ensemble Forecasts System (GEFS) and expert assessment.

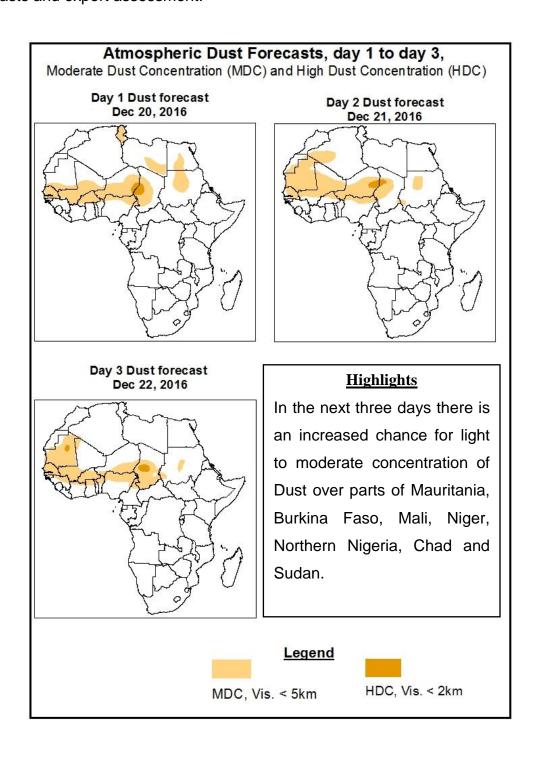




# **Highlights**

In the next five days, lower level wind convergences across the Northern parts of the South African countries are expected to enhance rainfall in their respective regions. Therefore, there is an increased chance for two or more days of light to moderate rainfall over portion of Malawi and Madagascar, local area of Gabon, DRC, Angola, Zambia, Zimbabwe, Tanzania, Mozambique and Madagascar.

# **1.2. Atmospheric Dust Concentration Forecasts** (valid: Dec 20 – Dec 22, 2016) The forecasts are expressed in terms of high probability of dust concentration, based on the Navy Aerosol Analysis and Prediction System, NCEP/GFS lower-level wind forecasts and expert assessment.



#### 1.3. Model Discussion, Valid: Dec 20 – Dec 24, 2016

The Azores High Pressure system over the North Atlantic Ocean is expected to weaken, with its value of the central pressure increasing from 1037hPa to 1034hPa in the next 48 hours, intensify to 1037hPa during the remaining forecast period.

The St. Helena High Pressure system over the Southeast of the Atlantic Ocean is expected to weaken, with its value of the central pressure decreasing from 1025hPa to 1020hPa in the next 96 hours, intensify to 1024hPa during the remaining forecast period.

The Mascarene High Pressure system over the Southwest Indian Ocean is expected to weaken, with its value of the central pressure decreasing from 1022hPa to 1019hPa during the forecast period.

At 925hPa, strong dry Northerly to Easterly winds may lead from light to moderate dust concentration over parts of Western Sahara, Senegal, Gambia, Mauritania, Mali, Burkina Faso, Niger, Northern Nigeria, Chad, Egypt, Libya, Tunisia and Sudan.

At 850hPa level, lower level wind convergences are expected to prevail over CAR, Congo, DRC, Zambia, Zimbabwe, Botswana, Ethiopia and South Sudan.

In the next five days, lower level wind convergences across the Northern parts of the South African countries are expected to enhance rainfall in their respective regions. Therefore, there is an increased chance for two or more days of light to moderate rainfall over portion of Malawi and Madagascar, local area of Gabon, DRC, Angola, Zambia, Zimbabwe, Tanzania, Mozambique and Madagascar.

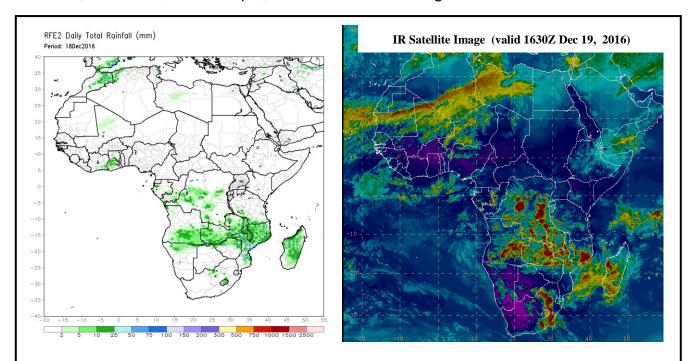
# 2.0. Previous and Current Day Weather over Africa

# 2.1. Weather assessment for the previous day (Dec 18, 2016)

Light to moderate rainfall was observed over portion of Morocco, DRC, Zambia, Zimbabwe, Mozambique and Madagascar.

## 2.2. Weather assessment for the current day (Dec 19, 2016)

Intense convective clouds are observed over portions of Gabon, Congo, DRC, Angola, Zambia, Zimbabwe, Mozambique, South Africa and Madagascar.



Previous day rainfall condition over Africa (Left) based on the NCEP CPCE/RFE and current day cloud cover (right) based on IR Satellite image.

Authors: Amira Mostafa (Egypt - Met) / CPC-African Desk); amira.mostafa@noaa.gov